PRELIMINARY RESULTS OF THE ANALYSIS OF CaI K SPECTROHELIOGRAMS

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Abstract

The preliminary results of the photometry of CaI K spectroheliograms taken at the National Solar Observatory at Sacramento Peak are presented in this paper. We have digitized spectroheliograms for 1980 (maximum of SC21), 1985 (minimum of SC21), 1987 (beginning of' the ascending phase of SC22), 1988 and 1989 (ascending phase and maximum of SC22), and 1992 (declining phase of SC22). We have analyzed images for 1992 and separated the plages, the magnetic network, internetwork elements and the chromospheric background using histogram method. We have derived the intensity and area of these features as well as the full disk intensity (Spatial. K Index). The Spatial K Index has been compared to the spectral Ca K index derived from the line profiles and total solar and UV irradiance measured by the UARS ant] NOAA9 satellites. The contribution of plages, the magnetic network and internetwork element, to the changes observed in total solar and UV i radiances are also estimated.